

What is claimed is:

- 1 Sub A₁) 1. A locking system, comprising:
2 a base lock member moveable between a first position and a second position;
3 a first input device; and
4 an activation device,
5 wherein the base lock member is moveable between a first position and a second
6 position in response to actuation of the first input device, and the base lock member is
7 prevented from moving from a first position to a second position when the activation device is
8 not activated.
- 1 2. The locking system of Claim 1 further comprising:
2 at least one secondary lock member having a first position and a second
3 position.
- 1 Sub A₂) 3. The locking system of Claim 2 wherein the at least one secondary lock member
2 is moveable between a first position and a second position in response to actuation of the first
3 input device.
- 1 The locking system of Claim 3 wherein the at least one secondary lock member
2 is prevented from moving from a first position to a second position when the activation device
3 is not activated.
- 1 5. The locking system of Claim 4 further comprising:
2 a latch,
3 wherein the latch moves in response to actuation of the first input device.
- 1 Sub A₃) 6. The locking system of Claim 2 further comprising:
2 a second input device,
3 wherein the at least one secondary lock member is moveable between a first
4 position and a second position in response to actuation of the second input device.

1 7. The locking system of Claim 6 further comprising:
2 a passive lock device, the passive lock device including
3 at least one passive lock member, moveable from a first position to a second
4 position.

1 8. ¹⁴ The locking system of Claim ~~7~~¹³ wherein the at least one passive lock member
2 moves in response to movement of the base lock member.

1 9. ¹⁵ The locking system of Claim ~~8~~¹⁴ wherein the passive lock device further
2 comprises:
3 a passive input device,
4 wherein the at least one passive lock member moves in response to actuation of
5 the passive input device.

1 ~~Sub A4 >~~ 10. The locking system of Claim 9 wherein the passive lock prevents movement of
2 the base lock member from a first position to a second position when the at least one passive
3 lock member is in a first position.

1 11. The locking system of Claim 10 wherein the passive input device is prevented
2 from substantial movement caused by interaction with the base lock member, when the base
3 lock member is in a second position and the at least one passive lock member is in a second
4 position.

1 12. The locking system of Claim 6 wherein the at least one secondary lock member
2 is prevented from moving from a first position to a second position when the activation device
3 is not activated.

1 13. The locking system of Claim 12 wherein the at least one secondary lock member
2 is prevented from substantial movement from a second position when the base lock member is
3 in a second position.

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1 14. The locking system of Claim 13 wherein the second input device provides a
2 positive indication, to an operator, that both the base lock member and the at least one
3 secondary lock member are in their respective second positions.

1 15. The locking system of Claim 14 further comprising:
2 a latch moveable from a first position to a second position.

1 16.²³ The locking system of Claim 15 wherein the latch is moveable in response to
2 actuation of the first input device.

1 17.²⁴ The locking system of Claim 15 wherein the latch is moveable in response to
2 actuation of the second input device.

1 Sub A5> 18. The locking system of Claim 2 wherein the second position of the base lock
2 member is a fully extended position.

1 19. The locking system of Claim 2 wherein the second position of the at least one
2 secondary lock member is a fully extended position.

1 20. The locking system of Claim 2 wherein the first lock member is a deadbolt.

1 21. The locking system of Claim 2 wherein the at least one secondary lock member
2 is an extension bolt.

1 22. The locking system of Claim 2 wherein the secondary lock member is a
2 deadbolt.

1 23. The locking system of Claim 2 wherein the first input device is a thumbturn.

1 24. The locking system of Claim 2 wherein the first input device is a handle.

1 25. The locking system of Claim 2 wherein the second input device is a handle.

1 26. The locking system of Claim 2 wherein a activation device is a button.

1 27. The locking system of Claim 13 wherein the locking system provides positive
2 tactile indication that the base lock member and the at least one secondary lock members are
3 both in a second position.

1 28. A locking system comprising:

2 a base lock member moveable between an open position and a fully locked
3 position; and

4 at least one secondary lock member moveable between an open position and a
5 fully locked position;

6 a first input device adapted to coact with at least one of the base lock member
7 and the at least one secondary lock member,

8 wherein the movement of the base lock member, to the fully locked position, is
9 selectively and sequentially independent of the movement of the at least one secondary lock
10 member to the fully locked position.

1 29. The locking system of Claim 28 further comprising:

2 an activation device,

3 wherein the activation device prevents substantial movement of the at least one
4 secondary lock member from the open position when the activation device is not activated.

1 30. The locking system of Claim 28 further comprising:

2 an activation device,

3 wherein the activation device prevents substantial movement of the base lock
4 member from the open position when the activation device is not activated.

1 31. The locking system of Claim 30 wherein the activation device prevents
2 substantial movement of the at least one secondary lock member from the open position when
3 the activation device is not activated.

32. The locking system of Claim 31 further comprising:

 a second input device,

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cont
3 wherein the at least one secondary lock member is moveable between an open
4 position and a fully locked position in response to actuation of the second input device.

1 35. ²⁷ The locking system of Claim ²⁶ wherein the secondary lock member is
2 prevented from substantial movement when the base lock member is in a fully locked position
3 and the at least one secondary lock member is in a fully locked position.

1 34. ²⁸ The locking system of Claim ²⁷ further comprising:
2 a latch,
3 wherein the latch moves in response to actuation of the first input device.

1 35. ²⁹ The locking system of Claim ²⁸ wherein the latch moves in response to
2 actuation of the second input device.

1 Sub A6 > 36. The locking system of Claim 35 wherein the orientation of the latch may be
2 reversed.

1 37. ³⁰ The locking system of Claim ³¹ wherein the second input device provides a
2 positive indication that the base lock member and the at least one secondary lock member are
3 in the fully locked position.

1 38. ³³ The locking system of Claim ³⁷ further comprising:
2 a latch,
3 wherein the latch moves in response to actuation of one of the first input device
4 and the second input device.

1 39. The locking system of Claim 29 wherein the base lock member is a hook
2 member.

1 40. The locking system of Claim 29 wherein the at least one secondary lock member
2 is a hook member.

1 Sub A7 > 41. The locking system of Claim 29 wherein the first lock member is a deadbolt.

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- 1 42. The locking system of Claim 29 wherein the at least one secondary lock member
2 is an extension bolt.
- 1 43. The locking system of Claim 29 wherein the at least one secondary lock member
2 is a deadbolt.
- 1 44. The locking system of Claim 29 wherein the first input device is a thumbturn.
- 1 45. The locking system of Claim 29 wherein the first input device is a handle.
- 1 46. The locking system of Claim 29 wherein the second input device is a handle.
- 1 47. The locking system of Claim 31 wherein the positive indication is a tactile
2 indication.
- 1 48. The locking system of Claim 29 wherein a activation device is a button.
- 1 49. A door lock assembly for use in locking a door, the door lock assembly
2 comprising:
3 a housing shaped to be inserted into an aperture in a door;
4 a latch extendable from the housing;
5 a first lock member extendable from the housing;
6 a first input device mounted adjacent the housing and coacting with the first lock
7 member, the first input device affecting movement of the first lock member;
8 at least one second lock member moveable relative to the housing;
9 a second input device mounted adjacent the housing and configured to
10 selectively actuate one of the at least one second lock member, the latch, and the at least one
11 second lock member and the latch; and
12 an activation device that allows actuation of one of the first lock member
13 independent of the at least one second lock member, and the at least one second lock member
14 and the first lock member independent of each other, when the activation device is activated.
- 1 50. The door lock assembly of Claim 49 wherein the latch is rotatable so as to be
2 reconfigurable for one of a left-handed door and a right-handed door.

1 51. ⁴³ The door lock of Claim ⁴¹ ~~49~~ wherein the first lock member can be extended and
2 retracted from the housing, independent of movement of the at least one second lock member.

1 52. ⁴⁴ The door lock assembly of Claim ⁴¹ ~~49~~ further comprising at least one extension
2 member coupled to the at least one second lock member.

1 53. ⁴⁴ The door lock assembly of Claim ⁵² ~~49~~ wherein the at least one extension member
2 may be coupled to the at least one second lock member in at least two different positions, the at
3 least two different positions of the at least one second lock member defining at least two
4 different configurations.

1 54. ⁴⁵ The door lock assembly of Claim ⁴¹ ~~49~~ wherein the activation device may be used
2 with one of a left-handed door and a right-handed door.

1 55. ⁴⁶ The door lock assembly of Claim ⁴¹ ~~49~~ wherein the activation device is removable
2 such that the at least one second lock member and the first lock member may be actuated
3 without the use of the activation device, when the activation device is removed.

1 56. ⁵⁰ The door lock assembly of Claim ⁴¹ ~~49~~ wherein the second input device must be
2 rotated less than forty-five (45) degrees to fully actuate at least one of the latch and the at least
3 one second lock member.

1 57. ⁵¹ The door lock assembly of Claim ⁴¹ ~~49~~ wherein the second input device is
2 prevented from rotation in one direction when the at least one second lock member is extended
3 and the first lock member is extended.

1 58. ⁵² The door lock assembly of Claim ⁴¹ ~~49~~ wherein the at least one second lock
2 member and the first lock member each move linearly at least one (1) inch.

1 59. ⁵³ The door lock assembly of Claim ⁴¹ ~~49~~ wherein the at least one second lock
2 member includes a first extension member base and a second extension member base, the
3 second extension member base coacting with the second input device and the first extension

4 member base coacting with the second extension member base by a motion reversing
5 mechanism.

1 ~~60.~~⁵⁹ The door lock assembly of Claim ~~49~~⁴¹ wherein the first lock member and the at
2 least one second lock member are prevented from being extended when the activation device is
3 extended.

1 ~~Sub A1>~~ 61. The door lock assembly of Claim ~~52~~⁵¹ wherein the at least one extension member
2 extends through at least one second lock member aperture, the at least one second lock member
3 aperture extending through the interior of the door.

1 ~~62.~~⁴⁵ The door lock assembly of Claim ~~52~~⁵² wherein each of the at least one second
2 lock member and the at least one extension member are integrated into a single extension
3 member unit.

1 ~~Sub A10>~~ 63. A lock assembly for securing a door in a door frame, the door having a top
2 edge, a bottom edge opposite the top edge, a first edge and a second edge opposite the first
3 edge, the door being movably coupled to the frame, the lock assembly comprising:

4 a housing shaped to be inserted into an aperture in the door;
5 a latch moveable through a latch aperture in the housing, the latch aperture
6 being located along the first edge of the door;
7 a deadbolt moveable through a deadbolt aperture in the housing, the deadbolt
8 aperture being located along the first side edge of the door;
9 a thumbturn rotatably mounted adjacent the housing and coacting with the
10 deadbolt, the thumbturn affecting movement of the deadbolt;
11 a first lock member moveable relative to the housing;
12 a second lock member moveable relative to the housing; and
13 an activation device that allows actuation of one of the deadbolt independent of
14 the first and second lock members, the first and second lock members and the deadbolt
15 independent of each other, and the first and second lock members and the deadbolt dependent
16 with each other, when the activation device is activated.

1 56
2 64. The lock assembly of Claim 63 wherein the thumbturn affects movement of the
first lock member, the second lock member, and the deadbolt.

1 57
2 65. The lock assembly of Claim 63 further comprising:
3 a device rotatably mounted adjacent the housing and configured to selectively
actuate the first and second lock members and the latch.

1 58
2 66. The lock assembly of Claim 63 further comprising:
3 a first extension member detachably coupled to a first lock member; and
4 a second extension member detachably coupled to a second lock member,
5 wherein the first extension member and the second extension member are
moveable with the first lock member and the second lock member.

1 Sub Aii > 67.
2 The lock assembly of claim 66 further comprising:
3 a first edge plate coupled to the first edge of the door and substantially
concealing the first extension member from view; and
4 a second edge plate coupled to the first edge of the door and substantially
concealing the second extension member from view,
5 wherein the first extension member is slidably coupled to the first edge plate and
6 is extendable beyond the edge of the door by actuation of the first lock member and the second
7 extension member is slidably coupled to the second edge plate and is extendable beyond the
8 edge of the door by actuation of the second lock member.

1 68. The lock assembly of Claim 66 wherein the first extension member extends
2 through a first extension aperture in the door extending from the edge of the door to the lock
3 aperture and the second extension member extends through a second extension aperture in the
4 door extending from the edge of the door to the lock aperture.

1 69. The door lock assembly of Claim 63 wherein the latch is turnable so as to be
2 reconfigurable for one of a left-handed door and a right-handed door.

1 70. The door lock of Claim 63 wherein the deadbolt can be extended and retracted
2 through the deadbolt aperture independent of movement of the first and second lock members.

1 ~~71.~~⁶⁹ The door lock assembly of Claim ~~63~~⁵⁵ wherein the activation device is useable
2 with one of a left-handed door and a right-handed door.

1 ~~72.~~⁶⁵ The door lock assembly of Claim ~~63~~⁵⁵ wherein the activation device is removable
2 such that the first and second lock members and the deadbolt may be actuated without the use
3 of the activation button.

1 ~~Sub A12~~^{73.} The door lock assembly of Claim 63 wherein the drive must be rotated less than
2 forty-five (45) degrees to fully actuate the latch and the first and second extension members.

1 74. The door lock assembly of Claim 63 wherein the drive is prevented from
2 rotation in one direction when the deadbolt is extended and the first and second lock members
3 are extended.

1 ~~75.~~⁶⁸ The door lock assembly of Claim ~~63~~⁵⁵ wherein the first and second lock members
2 and the deadbolt each move linearly at least one (1) inch.

1 ~~Sub A13~~^{76.} The door lock assembly of Claim 66 wherein the second lock member coacts
2 with the drive and the first lock member coacts with the second lock member by a motion
3 reversing mechanism.

1 ~~77.~~⁶⁹ The lock assembly of Claim ~~63~~⁵⁵ wherein the latch is substantially made of a
2 polyester resin.

1 ~~78.~~⁷⁰ The lock assembly of Claim ~~63~~⁵⁵ wherein the thumbturn affects substantially
2 linear movement of the deadbolt.

1 ~~Sub A14~~^{79.} The lock assembly of Claim 63 further comprising:
2 a second door in the door frame, the second door having a passive lock.

1 80. The lock assembly of Claim 63 wherein the passive lock includes
2 at least one extension member to secure the passive door to the door frame when
3 the extension member is extended; and

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4 a blocking member preventing extension of the deadbolt when the at least one
5 extension member of the passive lock is retracted.

1 81. A lock assembly for securing a door in a door frame, the door having a first
2 edge and a second edge opposite the first edge, the door being movably coupled to the frame,
3 the lock assembly comprising:

4 a housing shaped to be inserted into an aperture in the door;

5 a latch moveable through a latch aperture in the housing, the latch aperture
6 being located along the first edge of the door;

7 a deadbolt moveable through a deadbolt aperture in the housing, the deadbolt
8 aperture being located along the first edge of the door;

9 a first input device mounted adjacent the housing and coacting with the
10 deadbolt, the first input device affecting movement of the deadbolt;

11 at least one lock member moveable within the housing;

12 a second input device mounted adjacent the housing and configured to
13 selectively actuate one of the at least one lock member, the latch, and the at least one lock
14 member and the latch; and

15 wherein the deadbolt and the at least one lock member may be selectively
16 extended independently of one another.

1 75
1 82. The lock assembly of Claim 81 wherein the substantial movement of the second
2 input device is prevented when the deadbolt and the at least one lock member is substantially
3 extended.

1 74
1 83. The lock assembly of Claim 81 wherein the deadbolt and the at least one lock
2 member may be selectively fully extended independently of one another.

1 76
1 84. The lock assembly of Claim 82 wherein the deadbolt and the at least one lock
2 member may be selectively fully extended independently of one another in any sequence.

1 Sub A₁₅ > 85. A lock assembly for securing a door to a door frame, the door having a first
2 edge and a second edge opposite the first edge, the door being movably coupled to the frame,
3 the lock assembly comprising:
4 a housing shaped to be inserted into an aperture in the door;
5 a latch moveable through a latch aperture in the housing, the latch aperture
6 being located along the first edge of the door;
7 a deadbolt moveable through a deadbolt aperture in the housing, the deadbolt
8 aperture being located along the first edge of the door;
9 a first input device mounted adjacent the housing and coacting with the
10 deadbolt, the first input device affecting movement of the deadbolt;
11 a second input device mounted adjacent the housing and configured to
12 selectively actuate the latch; and
13 an activation device, that allows actuation of the deadbolt when the activation
14 device is activated.

1 86. The lock assembly of Claim 85 wherein substantial movement of the second
2 input device is prevented when the deadbolt is substantially extended.

1 87. A method of multi-point locking a door in a door frame, the method comprising:
2 closing the door such that an activation device is activated;
3 releasing a first lock member from a held position, caused by interaction of the
4 activation button with a stop;
5 extending the first lock member;
6 releasing the secondary lock members from a held position, caused by
7 interaction of the activation button with a stop; and
8 extending the secondary lock members.

1 88. The method of multi-point locking a door in a door frame according to Claim 87
2 wherein the releasing a first lock member step and the releasing the secondary lock members
3 step are substantially simultaneous.

1 89. A method of multi-point locking a double door in a door frame, the double door
2 including a passive door having a passive lock and an active door having an active lock, the
3 method comprising:
4 closing the passive door;
5 extending lock members of the passive door;
6 opening a first lock member aperture in the passive lock;
7 closing the active door, such that an activation device is activated;
8 releasing a first lock member from a held position, caused by interaction of the
9 activation button with a moveable stop;
10 extending the first lock member;
11 releasing the secondary lock members of the active door from a held position;
12 and
13 extending the secondary lock members of the active door.

1 Sub A₁₆) 90. In a lock assembly for securing a door in a door frame, the door having a first
2 edge and a second edge opposite the first edge, the door being movably coupled to the frame,
3 the lock assembly comprising:
4 a housing shaped to be inserted into an aperture in the door;
5 a latch moveable through a latch aperture in the housing, the latch aperture
6 being located along the first edge of the door;
7 a deadbolt moveable through a deadbolt aperture in the housing, the deadbolt
8 aperture being located along the first edge of the door;
9 a thumbturn rotatably mounted adjacent the housing and coupled to the deadbolt,
10 the thumbturn affecting movement of the deadbolt;
11 at least one secondary lock member moveable relative to the housing;
12 a drive rotatably mounted adjacent the housing and configured to selectively
13 actuate the at least one secondary lock member and the latch; and
14 the improvement comprising:

15 an activation device that allows actuation of one of the deadbolt independent of
16 the at least one secondary lock member, the at least one secondary lock member and the
17 deadbolt independent of each other, when the activation device is depressed.

1 91. A door lock assembly for securing a door in a door frame, the door lock
2 assembly comprising:

3 a housing shaped to be inserted into an aperture in the door;
4 a latch extendable from the housing;
5 a first lock member extendable from the housing;
6 a second lock member moveable relative to the housing;
7 a drive means to selectively actuate one of the first lock member, the second

8 lock member, and the first lock member and the second lock member; and

9 a lock out means that prevents actuation of one of the first lock member
10 independent of the second lock member, and the first lock member and the second lock
11 member independent of each other, when the lock out means is not activated.

1 92. A locking system comprising:

2 a base lock member moveable between an open position and a fully locked
3 position;

4 at least one secondary lock member moveable between an open position and a
5 fully locked position;

6 a first input device adapted to contact with at least one of the base lock member
7 and the at least one secondary lock member,

8 wherein the movement of the base lock member is selectively and sequentially
9 independent of movement of the at least one secondary lock member and the at least one
10 secondary lock member is prevented from substantial movement when the base lock member
11 and the at least one secondary lock member are in their locked positions.

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